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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,401	12/28/2001	Yat-Tung Lam	MP0056.C1	4485

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TROY, MI 48098

EXAMINER
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RODRIGUEZ, GLENDA P

ART UNIT	PAPER NUMBER
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2651

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/035,401

Applicant(s)

LAM, YAT-TUNG

Examiner

Glenda P. Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-12, 14-19, 21-28, 30-35, 37 and 38 is/are rejected.
- 7) ☒ Claim(s) 7, 13, 20, 29 and 36 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/28/01
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION*****Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-7, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7, 8, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 of U.S. Patent No. 6, 369, 967.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent claims include all the features of the instant applications claims, except for deletion of limitations. The instant “application Claims are generic to species of invention covered by the patent claim, and since without terminal disclaimer, extant species Claims preclude issuance of generic application claims” (See *In re Goodman*, 29 USPQ2d 2010) and deletion of the additional limitations in the patent claims would have been obvious to one of ordinary skill in the art.

*Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 14, 8, 23, 30, 2, 15, 24, 31, 6, 12, 19, 28, 35 rejected under 35 U.S.C. 102(e) as being anticipated over (US Patent No. 6, 522, 608) to Kuroda.

Regarding Claims 1 and 14, Kuroda teaches a read circuit which provides multi-bit disk data to a disk controller based on analog data from a disk head, said read circuit comprising:

A bit detector for providing single bit digital data corresponding to the analog data from the disk head, the bit detector being synchronized by a high frequency clock (See Fig. 5, wherein it teaches a single bit being detected. It is obvious that that before data is digital it is analog.);

A synchronization mark detector for detecting a synchronization marker in response to said bit detector (Element 69); and

A clock generator for generating a lower- frequency clock from the high frequency clock with a phase adjustable in response to the synchronization mark detector (See Figs. 10 and 11 along with Col. 2, Element 26-65 and Col. 14, L. 40 to Col. 15, L. 24, wherein Kuroda teaches that the clock signal is being adjusted according the synch signal found in a synch data or marker detection and the

phase is adjusted by changing the clock (either to a lower frequency or a higher frequency) in order to produce synchronization in the signal).

Method claims (8) is drawn to the method of using the corresponding apparatus claimed in claims (1 and 14). Therefore method claim (8) corresponds to apparatus claim (1 and 14) and are rejected for the same reasons of anticipation as used above.

Claims (23 and 30) have limitations similar to those treated in the above rejections, and are met by the references as discussed above. Claims (23 and 30) however also recite the following limitations: "a disk head (Element 60) and a disk controller (or processor Element 9)."

Regarding Claim 2, 15, 24 and 31, Kuroda teaches all the limitations of Claims 1, 14, 23 and 30, respectively. Kuroda further teaches wherein said synchronization mark detector detects the synchronization marker based on the single bit data from said bit detector (Col. 6, L. 57-65).

Regarding Claim 6, 12, 19, 28 and 35, Kuroda teaches all the limitations of Claims 1, 8, 14, 23 and 30, respectively. Kuroda further teaches wherein clock generator counts a high frequency clock and adjusts phase of the lower-frequency clock by a reset of the count (Col. 11, L. 45 to Col. 12, L. 14, wherein Kuroda teaches that the clock frequency is changed and it is then reset.).

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-5, 9-11, 16-18, 25-27, 32, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda in view of Vishakadatta et al. (US Patent No. 6, 111, 712).

Regarding Claims 3, 9, 16, 25 and 32, Kuroda teaches all the limitations of Claims 1, 8, 14, 23 and 30, respectively. However, Kuroda does not explicitly teach wherein said high frequency clock is phase-locked to output of the disk head. Vishakadatta et al. teaches this limitation in the Summary of the Invention wherein it has a frequency synthesizer in which more than one PLL, all with different clock frequencies, can be chosen. It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Kuroda's invention with the teaching of Vishakadatta et al. in order to be able to operate at different rates for a given frequency as described in the Summary of Vishakadatta et al.

Regarding Claim 4, 10, 17, 26 and 33, Kuroda teaches all the limitations of Claims 1, 8, 14, 23 and 30, respectively. However, Kuroda does not explicitly teach further comprising an A/D converter for converting the analog data from the disk head to multi-bit digital data and providing such multi-bit digital data to said bit detector (Element 320).

Regarding Claim 5, 11, 18, 27 and 34, the combination of Kuroda and Vishakadatta et al. teach all the limitations of Claims 4, 10, 17, 26 and 33, respectively. The combination further teach wherein said A/D converter operates in synchronism with said high frequency clock (See Fig. 1, Element 354, wherein the clock is also sent to the ADC).

7. Claims 21, 22, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda in view of Uno (US Patent No. 6, 301, 066).

Regarding Claim 21, 22, 37 and 38, Kuroda teaches all the limitations of Claims 1, 14, 23 and 30, respectively. However, Kuroda does not explicitly teach a high frequency clock, even

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though it is obvious to an artisan that if a clock varies according to the data, one of the frequencies must be the highest, thereby being a high frequency clock while reading certain data. Uno teaches a high frequency clock in Col. 12, L. 36-43). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Kuroda's invention with the teaching of Uno in order to process parallel data at high speed as taught by Uno in the Summary of the Invention.

#### *Allowable Subject Matter*

8. Claims 7, 13, 20, 29 and 36 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the primary reason for allowable subject matter is the inclusion of the limitation wherein the cycle counter is responsive to said synchronization mark detector to generate a reset signal for said resettable divider in accordance with whether said divider is in a first half cycle or a second half cycle.

#### *Conclusion*


9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US Patent No. 6, 757, 228 and 6, 661, 754 to Kuroda.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenda P. Rodriguez whose telephone number is (571) 272-7561. The examiner can normally be reached on Monday thru Thursday: 7:00-5:00; alternate Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
SP  
02/06/06.

  
**WAYNE YOUNG**  
**SUPERVISORY PATENT EXAMINER**